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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,634	06/30/2006	Gary Fairless Power	42399/44787	6838
23646 7590 08/31/2009 BARNES & THORNBURG LLP 750-17TH STREET NW SUITE 900 WASHINGTON, DC 20006-4675			EXAMINER GRABOWSKI, KYLE ROBERT	
			ART UNIT 3725	PAPER NUMBER
			MAIL DATE 08/31/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/575,634

**Applicant(s)**

POWER, GARY FAIRLESS

**Examiner**

Kyle Grabowski

**Art Unit**

3725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 37-75 is/are pending in the application.
- 4a) Of the above claim(s) 41, 43, 55, 60-67 and 71-75 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-40, 42, 44-54, 56-59 and 68-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 06/30/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Upon further review, a further restriction was required:
2. Group I: Claims 37-59 and 68-70, a security document
3. Group II: Claims 60-67 and 71-75, a method of manufacture
4. Also an election of species was required between one of figures 1, 2, and 3.
5. Group I (Claims 37-59 and 68-70) and Figure 1 (excluding claims 41, 43, and 55) were elected by Jeff Garzynski on 08/26/09 via telephone without traverse. Claims 41, 43, 55, 60-67, and 71-75, are therefore withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Claims 37-40, 42, 44-54, 56-59, and 68-70, are hereby examined on their merits.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 37-39, 42, 44-47, 50, 51-53, 57, and 68-69, are rejected under 35 U.S.C. 102(b) as being anticipated by Oshima et al. (US 5,463,212).

8. In respect to claim 37, Oshima et al. disclose a security document comprising: a substrate 4b, a layer of polymeric material 2 having an upconverting fluorescent material, and a coating 4a containing a refractive pigment (Abstract, Fig. 9); signaling of the document with an infrared ray source results in emitted visible light (shorter wavelength) (Col. 5, 51-65).

9. In respect to claims 38-39, 42, and 57, the substrate 4b has a polymeric base layer 2 thereon, formed of a transparent polymeric binder 8 (Col. 12, 28-29) comprising for example polyester et al. (Col. 12, 35-39) and having an upconverting material (fluorescing grains) 7 uniformly dispersed therein (Fig. 3).

10. In respect to claims 44-47, the coating 4a is in intimate contact with the polymeric layer 8 containing the upconverting material 7 (Fig. 3); the coating 4a is formed of a resin with pigments of titanium oxide (titanium dioxide, synonymous) dispersed therein (Col. 12, 15-19).

11. In respect to claim 50, although Oshima et al. does not specifically disclose that the binder and titanium oxide are substantially transparent to excitation wavelengths, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). (MPEP 2114). Oshima et al. has an identical structure as claimed.

12. In respect to claims 51-53, Oshima et al. disclose the claimed invention for the reasons stated above because index of refraction is a material propertie which is inherent in selected materials of which Oshima et al. discloses.

13. In respect to claims 68 and 69, the upconverting material is subjected to infrared rays and emits visible light (Col. 5, 51-65).

14. Claims 37, 46-48, 54, and 56, are rejected under 35 U.S.C. 102(b) as being anticipated by Hardwick et al. (US 6,471,248).

15. In respect to claims 37 and 46-48, Hardwick et al. disclose a security document comprising a substrate having a layer of polymeric material 10 containing an upconverting fluorescent material 20 (Col. 5, 18) and coatings 13-16 comprise a refractive pigment (titanium dioxide) in a cross-linkable polymeric binder (Col. 4, 14-23, Fig. 1). By definition fluorescing compounds emit visible light from exposed radiation, and as such the structure disclosed in Hardwick et al. is capable of emitting a shorter wavelength of light (e.g. if irradiated by infrared rays).

16. In respect to claims 54 and 56, the polymeric material 10 is transparent (Col. 4, 5-7) and the opacifying coatings containing the refractive pigment (titanium oxide) are only applied partly over the transparent substrate 10 to form a window on at least one side of the document (Fig. 1). Although Hardwick et al. do not specifically disclose that the signals emitted from parts of the substrate covered by the opacifying coatings are stronger than signals emitted from the uncovered region however while features of an apparatus may be recited either structurally or functionally, claims directed to an

apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). (MPEP 2114). Hardwick et al. has an identical structure as claimed.

### ***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. (US 5,463,212). Oshima et al. disclose all of the claimed subject matter but do not specifically disclose the base layer comprising a paper or fibrous material (Oshima only states 4b, construed to be the base layer in this case, may be transparent or opaque) however it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide any of these materials as the polymeric binder, since

it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

20. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hardwick et al. (US 6,471,248). Hardwick et al. disclose all of the claimed subject matter but do not specifically disclose the polymeric binder comprising, for example, acrylics, polyester, or polyurethane however it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide any of these materials as the polymeric binder, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

21. Claims 58 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. (US 5,463,212) in view of Curatolo (US 6,165,609).

22. In respect to claim 58, Oshima et al. substantially disclose the claimed subject matter for the reasons above but do not disclose a concentration of upconverting material less than 1% by weight however Curatolo teach a similar fluorescent upconverting material (taggant compound) wherein it comprises 0.05% to 1% by weight of the film forming material (Col. 3, 37-40) and it would have been obvious to substitute the large grain fluorescent taught in Oshima et al. with smaller rare earth metal taggants (having less than 1% weight) in view of Curatolo. The claim would have been obvious

because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Curatolo teaches that for these particular upconverting materials, such weights are sufficient for detection (Col. 3, 24-26).

23. In respect to claim 59, Curatolo discloses the weight may range from 0.001% to 5% and the disclosure of Curatolo is determined to have sufficient specificity to teach that range of (0.0025% to 0.25%).

24. Claim 70 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. (US 5,463,212) in view of Hardwick et al. (US 6,471,248). Oshima et al. substantially disclose the claimed subject matter for the reasons above but do not disclose the opacifying coating only partly covering the substrate however Hardwick et al. teach this feature as detailed above and it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the opacifying coating taught in Oshima et al. to only partially cover the substrate in view of Hardwick et al. to provide variegated security effects from different sides of the document (and/or transmitted/incident light) (Col. 2, 48-65).

### ***Conclusion***

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Maruvada et al. (US 2006/0033325), Moriya (US 7,060,342),



Zamani-Kord (US 6,969,549), Bench (US 6,908,035), Drinkwater (US 6,712,399), and Krone (US 2004/0026921,) disclose similar inventions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle Grabowski whose telephone number is (571)270-3518. The examiner can normally be reached on Monday-Thursday, every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached on (571)272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kyle Grabowski/  
Examiner, Art Unit 3725

/Dana Ross/  
Supervisory Patent Examiner, Art  
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